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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/359,359	07/23/99	MATYJASZEWSKI	K 5344-0017-23

022850 IM52/0423
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EXAMINER

DI VERDI, M

ART UNIT	PAPER NUMBER
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1755

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DATE MAILED:

04/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/359,359

Applicant(s)
Krzysztof Matyjaszewski et al.

Examiner
Michael J. DIVERdi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Feb 9, 2001

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 68-116 is/are pending in the applica

4a) Of the above, claim(s) 70, 71, 74, and 81-116 is/are withdrawn from considera

5) ☐ Claim(s) is/are allowed.

6) ☒ Claim(s) 68, 69, 72, 73, and 76-80 is/are rejected.

7) ☒ Claim(s) 75 is/are objected to.

8) ☐ Claims are subject to restriction and/or election requirem

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. .

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). .

16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5, 6

20) ☐ Other:

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DETAILED ACTION

Response to Amendment

1. Applicants' cancellation of claims 1-67 and the addition of new claims 68-116 as directed in Paper No. 3, dated July 23, 1999, is acknowledged.

Election/Restriction

2. Applicants' election without traverse of Group I, claims 68-73 and 75-116, in Paper No. 10, dated February 9, 2001, is acknowledged. Applicants' election of 2,2' azobis [2-methyl-N-(2-(2-bromoisobutyryloxy)-ethyl)propionamide] from Example 270 is also acknowledged. Claims 68, 69, and 72-80 read on this election. Claims 68, 69, 72, 73, and 75-80 are currently being considered.

Information Disclosure Statement

3. The information disclosure statement filed July 23, 1999, fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The AAR reference by U. Schubert *et al.* could not be found in the present application nor in the 09/018,554 application, and therefore was not considered.

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Priority

4. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119(e) as follows:

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification (37 CFR 1.78).

Claim Objections

5. Claims 73 and 78 are objected to because of the following informalities: the examiner fails to see the difference between these two claims. Both are drawn to a macroinitiator comprising the initiator of claim 69. Claim 78 is more detailed and includes the limitation that the macroinitiator comprises one or more radically transferable atoms or groups, but this would be inherent in the nature of the initiator of claim 69. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 76 and 77 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 76 and 77 are drawn to a macroinitiator comprising the decomposition product of a macroinitiator in the presence of an excess of stable free radicals. The decomposition product or the process of decomposing a macroinitiator in the presence of an excess of free radicals could not be found in the specification.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 68, 69, and 72 are rejected under 35 U.S.C. 102(b) as being anticipated by MacLeay *et al.* (U.S. Patent No. 4,007,165).

MacLeay *et al.* disclose a series of chlorinated azo initiators for olefin polymerization. See columns 43 and 44, Table I, Examples XXIX-XXXIV, lines 3-21, and column 56, Example LXXVII, lines 36-68. The azo moiety can initiate a non-ATRP, free radical polymerization, and the chloride moiety can initiate an ATRP polymerization much like the elected species of the applicants: 2,2' azobis [2-methyl-N-(2-(2-bromoisobutyryloxy)-ethyl)propionamide].

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 73, and 78-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacLeay *et al.* (U.S. Patent No. 4,007,165).

MacLeay *et al.* are being relied upon for the same reasons as applied to claims 68, 69, and 72 above. MacLeay *et al.* fail to disclose an example of an olefin polymerization using a chlorinated azo compound. MacLeay *et al.* teach that the polymerization initiators of their invention can be utilized to polymerize alkenes, vinylhalides, vinyl esters, vinylidene halides, and alkenyl aromatics, such as ethylene, vinylchloride, and styrene. See column 13, lines 23-37. A macroinitiator is a polymer that has been formed via an initiator and is itself used to polymerize a

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monomer. The examiner fails to see a patentable distinction between a macroinitiator and a polymer formed by an ATRP initiator as the intermediate polymer formed by an ATRP initiator is a macroinitiator. It would have been obvious to one ordinarily skilled in the art of initiators to prepare the chlorinated azo initiators of MacLeay *et al.* and carry out the polymerizations of ethylene, vinylchloride, or styrene, or a combination of monomers, to prepare a macroinitiator. The motivation would have been that the polymerization of these monomers by a chlorinated azo initiator is fairly taught by MacLeay *et al.*

Allowable Subject Matter


12. Claim 75 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 75 is drawn to a macroinitiator comprised of a dihalo azo initiator. Such a dihalo azo initiator or macroinitiator could not be found in the prior art nor could a reasonable teaching of one.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. DiVerdi whose telephone number is (703) 305-0213. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700


Michael J. DiVerdi

April 21, 2001